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Degrees and Minutes of Arc

One degree is sixty minutes of arc and one minute of arc is 1/60th of a degree and one nautical mile. If you were to divide 21,600 minutes of arc which is 360 degrees by two pi the result is the radius of 360 degrees.

C and Grid Time (Cathie Grid)

Taking one nautical mile as being 1,852 metres:

$$\frac{299,792,458 \text{ m/s}}{1,852} = 161,874.977321 \dots \text{ nautical mile per sec.}$$

161,874.977321... nautical miles per second is 161,874.977321 minutes of arc per second.

$$\frac{161,874.977321}{9} \quad 8 = 143888.868730,$$

Whenever the term grid time is used in this text the following equation is being referred to:

$$\frac{1 \text{ second}}{9} \quad 8 = 0.888888 \text{ grid seconds}$$

Gravitational Acceleration

Is an angular acceleration (the *rate of change* of angular velocity). and is treated as the letter m from the $E = mc^2$ equation and the reciprocal of c.¹ Assigning c an upper an upper an lower limit in magnitude of 144,000 minutes of arc per second and 143,000 minutes of arc per grid second and referring the value 143,888.868730 as a *quantity* not a magnitude.

$$\frac{1}{144,400} = 6.9444 \dots$$

Degrees per grid second squared?

¹ {Citation}

The D Field

The equation below being given by James Clerk Maxwell for the D field in a linear media.

$$\epsilon E = D$$

Assigning epsilon (ϵ) the value of one over c squared (4.822530...e-11),

$$D = \frac{1}{\epsilon} = 0.0000069444 \dots$$

The E Field

The equation for which is also given by James Clerk Maxwell. Likewise

$$E = \frac{1}{D} = 144,000 \text{ per grid/sec}$$

$$D = \frac{1}{E} = 0.0000069444 \dots$$

The Fine Structure Constant

$$\alpha = \frac{\Phi^2}{360} = 0.00727231 \dots$$

Equation converted:

$$\alpha = \frac{1}{4\pi\epsilon_0} \frac{e^2}{\hbar c} = 0.00727231 \dots$$

Psi

Twice Phi and one Coulomb.

$$\Psi = 1 : 1 + \sqrt{5}$$

The Elementary Charge

$$e = \frac{\Psi}{\sqrt{1440}} = 0.0852778 \dots$$

Equation converted:

$$e^2 = \frac{2 \alpha}{u_0 c} = 0.00727231 \dots$$

The value of the elementary charge is also the square root of the fine structure constant.

Plancks Constant

Two pi.

Planck's constant is taken as two pi (h) and c is taken as the speed of light, with 2a representing twice the fine structure constant. The value assigned to e2 is that of the fine structure constant.

Mu Naught

$$\mu_0 = \frac{4\pi}{144,000} =$$

Equation converted:

$$\mu_0 = \frac{2a}{e^2} -$$

The Bohr Radius

The reciprocal of the fine structure constant and the most probable distance between the proton and the electron of the hydrogen atom.

Coulombs Constant

Like the E field, Coulombs constant has the same value as c from the $E = mc^2$ equation.

$$K\epsilon = \frac{1}{4\pi\epsilon_0} = 144,000$$

Equation converted:

$$K\epsilon = \frac{1}{4\pi\epsilon_0} = c$$

Epsilon Naught

$$\epsilon_0 = \frac{1}{4\pi} - \frac{c}{c} = 5.526128 \quad 7 \dots$$

Equation converted:

$$\epsilon_0 = \frac{e^2}{2\alpha hc}$$

Pi

Pi throughout this book is assigned the value 3.1416407... through the following equation.

Please feel free to use an alternate value for pi if that is your preference.

Phi

The golden ratio. Phi is also known as the golden mean.

$$\text{Phi} = 1 : \frac{1 + \sqrt{5}}{2} = 1 : 1.618033 \dots$$

Psi

Twice Phi.

$$\text{Psi} = 1 + \sqrt{5} = 1 : 3.2360679 \dots$$